

DOCKET NO.: NNI-0006
Application No.: 10/729,243
Office Action Dated: June 16, 2005

PATENT

Amendments to the Drawings

The attached sheets of drawings includes changes to Figs. 1, 2, 2A, 3-18, 19-21, 22A, 22B, 23 and 24. The sheets, which includes Figs. 1, 2, 2A, 3-18, 19-21, 22A, 22B, 23 and 24 replaces the original sheets including Figs. 1, 2, 2A, 3-18, 19-21, 22A, 22B, 23 and 24 .

Attachment: 26 Replacement Sheets

REMARKS

Entry of this response and reconsideration and allowance of the above-identified patent application are respectfully requested. Claims 1-70 were rejected in the office action. No claims have been amended or canceled. Therefore, following entry of the present response, claims 1-70 will remain pending in the present application.

Applicants submit 26 sheets of formal drawings for Figures 1, 2, 2A, 3-18, 19-21, 22A, 22B, 23 and 24. The Examiner is respectfully requested to acknowledge receipt and acceptance of these drawings as formal.

Claims 1-70 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-70 of co-pending Application No. 10/657,296.

A Terminal Disclaimer is being submitted herewith disclaiming the terminal part of the statutory term of any patent granted on the instant application that would extend beyond the expiration date of the full statutory term, as shortened by any terminal disclaimer, of now-pending U.S. Patent Application No. 10/657,296. Therefore, the obviousness-type double patenting rejection has been obviated, and applicants respectfully request withdrawal thereof.

Claims 1-70 also are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-72 of co-pending Application No. 10/792,994.

A Terminal Disclaimer is being submitted herewith disclaiming the terminal part of the statutory term of any patent granted on the instant application that would extend beyond the expiration date of the full statutory term, as shortened by any terminal disclaimer, of now-

pending U.S. Patent Application No. 10/792,994. Therefore, the obviousness-type double patenting rejection has been obviated, and applicants respectfully request withdrawal thereof.

Claims 1-39 and 49-51 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the office actions suggests that "claim 1 is unclear in that it appears that the step of applying an electrical signal to a second location is the same as the step of reducing the discomfort since the applying of the electrical signal is what is reducing the discomfort and if not then the step of reducing the discomfort is incomplete in that it is unclear how reducing step is performed." (*Office Action dated June 16, 2005 at p. 3*). Also, the office action notes that "[s]imilarly with claim 25, in that the step of applying a substance would be the same as the step of reducing the discomfort." (*Office Action dated June 16, 2005 at p. 3*). Finally, the office action suggests that "[c]laims 49-51 should recite 'at least one conductor' as defined in claim 40 since there could only be one and not plural conductors as defined by the language of claim 40." (*Office Action dated June 16, 2005 at p. 3*).

First, with respect to the suggestion that "claim 1 is unclear in that it appears that the step of applying an electrical signal to a second location is the same as the step of reducing the discomfort since the applying of the electrical signal is what is reducing the discomfort and if not then the step of reducing the discomfort is incomplete in that it is unclear how reducing step is performed," applicants respectfully disagree. It is through the combination of the provided transcutaneous magnetic stimulation at the first location and the applied electrical signal at the second location that the first location is treated and the second location has discomfort reduced. The recited elements act together to reduce discomfort that is caused

by the transcutaneous magnetic stimulation process. Accordingly, applicants respectfully request withdrawal of the rejection of claim 1 under 35 U.S.C. 112, second paragraph.

Also, with regard to the office action's suggestion that "[s]imilarly with claim 25, in that the step of applying a substance would be the same as the step of reducing the discomfort," again applicants respectfully disagree. As described with regard to claim 1 above, it is the combination of the provided transcutaneous magnetic stimulation at the first location and the applied substance at the second location that allows treatment at the first location and reduced discomfort at the second location. Accordingly, applicants respectfully request withdrawal of the rejection of claim 25 under 35 U.S.C. 112, second paragraph.

Finally, applicants respectfully disagree with the rejection of claims 49-51. Independent claim 40 recites "at least one conductor." Therefore, contrary to the office action's suggestion that "there could only be one and not plural conductors," in fact, there could be one conductor, two conductors, or many conductors. Claims 49-51 recite certain instances where multiple conductors are expected. Accordingly, applicants respectfully request withdrawal of the rejection of claims 49-51 under 35 U.S.C. 112, second paragraph.

Claims 40-41, 44-47 and 68 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,066,084 to Edrich *et al* ("Edrich"). In particular, the office action suggests that Edrich "teaches a device for providing magnetic stimulation having a magnetic stimulation device for treating a first location (horizontal coil 11), what is considered to be 'at least one conductor (vertical coil 12)' that is in communication with a signal generator that would be needed to provide an electric current to the coil, which would carry the electrical signal to the second location. (*Office Action dated June 16, 2005* at p. 4). Also, the office action suggests that with regard to claims 44-46 "these are merely directed to

where on the body the device is placed and the Edrich et al device is clearly capable of being placed anywhere on the body.” (*Office Action dated June 16, 2005 at p. 4*).

The claimed embodiments are directed to a system for reducing discomfort caused by a stimulation device in a patient. The novel system includes a transcutaneous magnetic stimulation device for treating a first location, an electrical signal generator for providing an electric signal to a second location, and at least one conductor. The conductor(s) is in communication with the electrical signal generator and the conductor carries an electrical signal to the second location. In other words, the system is configured to reduce stimulation that creates discomfort in a patient, in part, by using a conductor to reduce the surface-proximate stimulation. It should be appreciated that this feature is not contemplated by Edrich.

While Edrich admits reducing certain fields, it does so not for the purpose of reducing discomfort in a patient. In particular, Edrich is directed to using two field-creating devices in such a way as to focus their fields to provide a peak. Edrich teaches the use of a “circular coil,” a “figure-of-eight coil,” or a “slinky coil” to create a first magnetic field. Edrich also teaches the use of a second coil to create a second magnetic field to offset the first magnetic field.

However, Edrich does not contemplate creating such fields for the purpose of reducing discomfort in a patient. Instead, Edrich reduces fields in certain locations to increase the fields in another target location in order to obtain “a resultant induced electric field which forms a peak value at a desired tissue depth while at the same time the induced field in the near field region, (e.g. at or slightly below the tissue surface) is minimized out because of mutually opposing fields.” (*Edrich – Column 4, lines 37-44*). In other words,

Edrich reduces the field in one location in order to more efficiently focus the field at another certain desirable target location.

As a result, Edrich's technique allows it to "stimulate excitable tissues at much deeper subcutaneous depths without over stimulating the shallower regions." (*Edrich* – Column 4, lines 47-51). Also, this allows Edrich to "detect nerve current sources at much deeper subcutaneous depths without the added, unwanted noise contributions from shallower regions." (*Edrich* – Column 4, lines 55-59). This deeper stimulation provided by the increased focality, permits Edrich to provide to patients "a more intensified stimulation in deeper tissue regions often required by users for neurophysiological experiments or for clinical applications." (*Edrich* – Column 4, lines 60-64).

However, there is no teaching in Edrich to suggest that such focality reduces discomfort caused by surface stimulation. Instead, the field strengths and structures that are created by Edrich's two coil focusing arrangement are wholly different than the fields that are created for the purposes of reducing discomfort in a patient. In fact, it is likely that Edrich's increased focality technique will redistribute the fields in such a way as to cause greater discomfort for a patient over its entire area.

Accordingly, applicants respectfully request withdrawal of the rejection of claims 40-41, 44-47 and 68 under 35 U.S.C. § 102 (b) over Edrich.

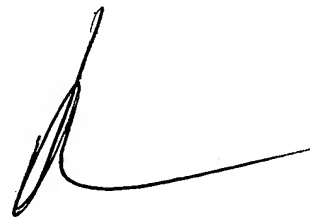
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CONCLUSION

In view of the foregoing, applicant respectfully submits that the claims are allowable and that the present application is in condition for allowance. Reconsideration of the application and an early Notice of Allowance are respectfully requested. In the event that the Examiner cannot allow the present application for any reason, the Examiner is encouraged to contact the undersigned attorney, Vincent J. Roccia at (215) 564-8946, to discuss resolution of any remaining issues.

Date: December 16, 2005



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